



Drainage Reports

Preliminary Drainage Report

For
Self Storage
SWC McDowell / Scottsdale Rd
Scottsdale, AZ

Job: 523
January 2021

Prepared by:

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EXP 9-30-23

**FINAL DRAINAGE REPORT
FOR
Self Storage
SWC McDowell / Scottsdale Rd
Scottsdale, Arizona**

1.0	INTRODUCTION.....	3
2.0	OBJECTIVES – PROJECT DEVELOPMENT AND BACKGROUND	3
3.0	EXISTING SITE CONDITIONS.....	3
4.0	FLOOD PLAIN DESIGNATION.....	3
5.0	PROPOSED STORMWATER SITE RETENTION	3
	STORMWATER RETENTION.....	3
	DISPOSAL.....	4
	404 AND CONSTRUCTION STORMWATER.....	4
6.0	SUMMARY.....	4
7.0	REFERENCES.....	4
	Figure 1 – Vicinity Map.....	5
	Figure 2 – Aerial Map.....	6
	Figure 3 – FEMA Map	7
	Figure 4 – Retention Calculations	8
	Figure 5 – Warning and Disclaimer of Liability.....	9
	Figure 6 – Prelim GD Plan.....	10

1.0 INTRODUCTION

The proposed site is located along on the South side of McDowell Rd west of Scottsdale Rd within the City of Scottsdale, Arizona. The site is situated within the Northeast Quarter of Section 3, Township 1 North, Range 4 East of the Gila and Salt River Base and Meridian, Maricopa County, Arizona. The site is currently a developed site with offices / retail with a access to McDowell Rd. This project will develop a self storage building on the site.

2.0 OBJECTIVES – PROJECT DEVELOPMENT AND BACKGROUND

The purpose of this report is to verify the site compliance with the drainage requirements set forth in the *Drainage Design Manual for Maricopa County, Volume II "Hydraulics"*, prepared by the Maricopa County Flood Control District; and the City of Scottsdale Design Standards and Procedures Manual dated 2018.

3.0 EXISTING SITE CONDITIONS

Currently, the site is a developed site. McDowell Road abuts the north side of the site, an existing Hotel abuts the west site, an under development multifamily project on the east side of the site and an alley and R1-7 single family to the south. Site currently contains no retention. A portion of the hotel on the upstream side drains to this site along the south side of the site. Curb and gutter along McDowell prevent half street flows from entering this site.

4.0 FLOOD PLAIN DESIGNATION

The site lies within zone X per (FEMA) Flood Insurance Rate Map (FIRM), Map Numbers 2235M, dated September 18, 2020. Building will have two basement levels with the lowest floor LF₈₈=1217.67. Building will be waterproofed to the main surface floor at elevation 1239.00

See Figure 3 for a copy of the FEMA map.

5.0 PROPOSED STORMWATER SITE RETENTION

STORMWATER RETENTION AND ONSITE STORM DRAIN

Due to this site being fully developed with no retention, the intent of design of this project is to provide the greater of the pre vs post or first flush for this site. The existing site is developed with approximately 4126 sf of landscape area. The post construction conditions will be approximately 14,813 sf of landscape area. (Post construction conditions will be a net reduction in impervious area)

The north basin will be a shallow self retaining first flush basin. The remainder of the site will be retained in a shallow first flush basin at the back of the site. Disposal of the first flush volume will be by drywell. Basin will overtop to the southeast corner of

the site for larger events. This outfall is the same outfall as the existing site. Outfall is to the existing alley.

C FACTORS

A C factor of 0.45 is used for landscape areas and 0.95 for paved and roof areas.

ULTIMATE OUTFALLS

This project ultimate outfall will remain at the southeast corner of the site at elevation 35.40. The waterproofed basin floor is in excess of 2' above this elevation (waterproofed to elevation 39.00.) This outfall is unchanged from historical.

DISPOSAL

Rear surface basins will be disposed by drywell. No city storm drains are available in this area.

404 AND CONSTRUCTION STORMWATER

This project is not located in a 404 wash. Project exceeds 1 acre and will have a Stormwater Management Plan prepared and an NOI filed with ADEQ prior to improvement plan approval.

6.0 SUMMARY

- This project is the development of a single self storage building.
- The site will provide retention for the first flush event.
- The Project Site is located within FEMA designated X Shaded.
- Site will outfall to the southeast corner of the site.

7.0 REFERENCES

1. Federal Emergency Management Agency, Flood Insurance Rate Map, Maricopa County, Arizona and Incorporated Areas, Map Number 04013C2235M, Sept 18, 2020.
2. City of Scottsdale, Design Standards and Procedures Manual Chapter 4, 2018.

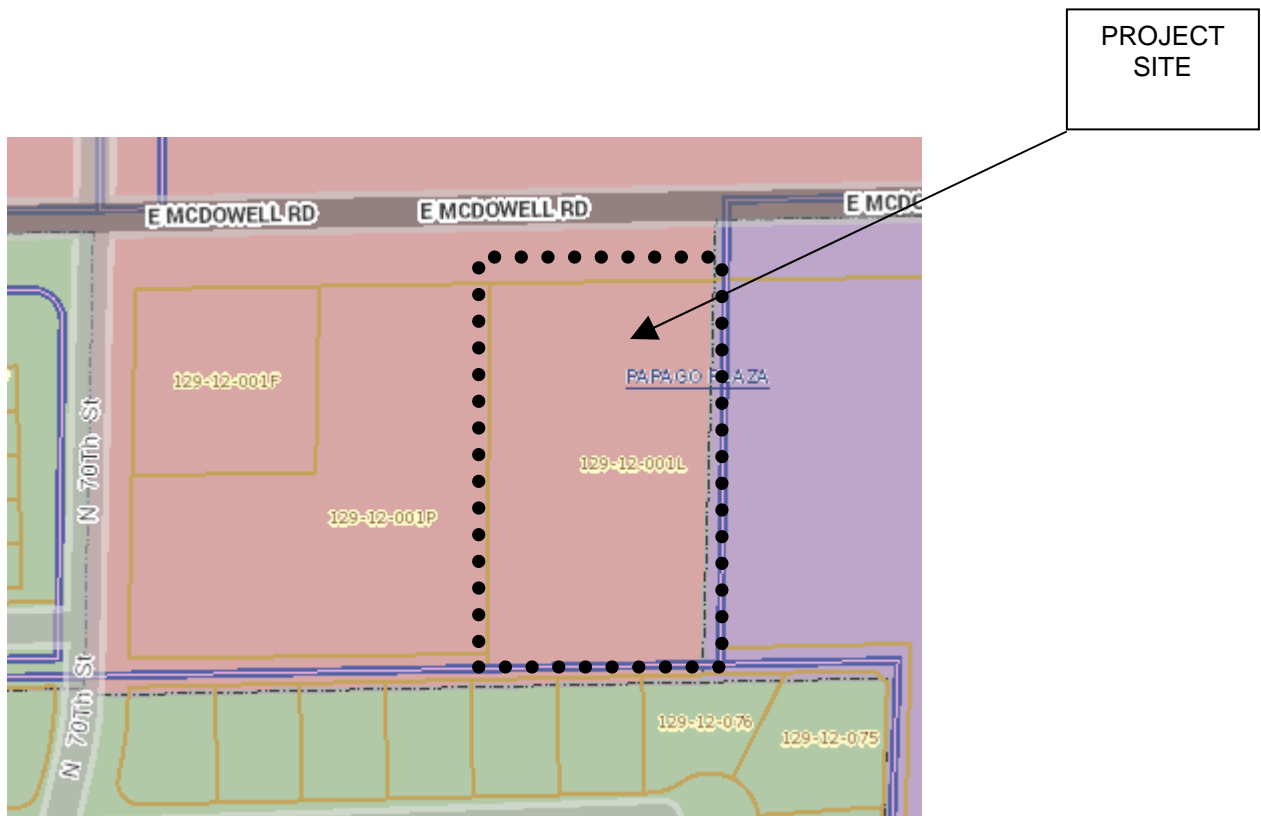


Figure 1-VICINITY MAP



Figure 2-AERIAL MAP

Figure 3-FEMA MAP



Figure 4-Retention Calculations

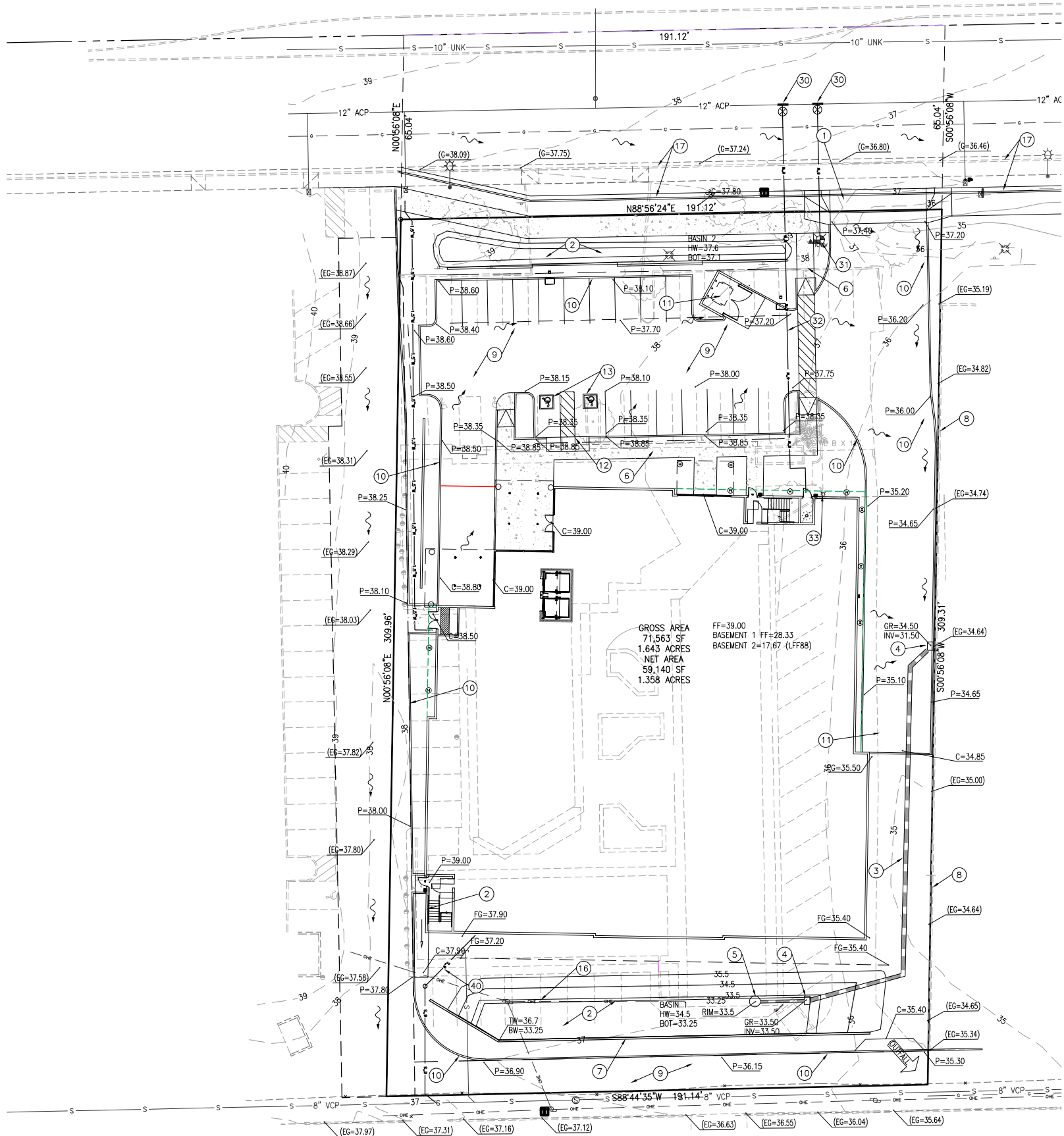
NAME	SF AREA	EVENT	C FACTOR	0.0417	CxDxA	PROVIDE	<u>excess</u>	<u>Notes</u>
				DEPTH	REQUIRE			
				Ft	CU FT	CU FT	<u>CU FT</u>	
<u>Basin 1</u>	55,395	FF	0.90	0.0417	2,077	2,430	352	Surface basin
<u>Basin 2</u>	2,744	FF	0.45	0.0417	51	347	296	Surface basin

Figure 5-Warning and Disclaimer of Liability

WARNING AND DISCLAIMER OF LIABILITY The flood protection provided by the Stormwater and Floodplain Management Ordinance is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. Floods larger than the base flood can and will occur on rare occasions. Floodwater heights may be increased by constructed or natural causes. The Stormwater and Floodplain Management Ordinance does not create liability on the part of the city, any officer or employee thereof, or the federal, state or county government for any flood damages that result from reliance on the Ordinance or any administrative decision lawfully made thereunder. Compliance with the Stormwater and Floodplain Management Ordinance does not ensure complete protection from flooding. Flood-related problems such as natural erosion, streambed meander, or constructed obstructions and diversions may occur and have an adverse effect in the event of a flood. You are advised to consult your own engineer or other expert regarding these considerations. I have read and understand the above.

Plan Check #	Owner	Signature	Date
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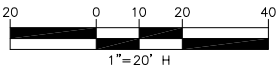
Figure 6-Prelim Grading plan



KEYED NOTES

1. CONSTRUCT DRIVEWAY PER COS STD DET 2251-1
 2. CONSTRUCT SURFACE BASIN. BASIN SHALL BE MAX 4:1 SLOPE. SCARIFY BOTTOM OF BASIN MIN 12". CONTRACTOR SHALL ACCOUNT FOR FINAL LANDSCAPING AND DG TO ACHIEVE FINAL ELEVATIONS (ELEVATIONS SHALL BE TO TOP OF DG)
 3. INSTALL 18" PIPE. PIPE SHALL BE HDPE TYPE WT IB.
 4. INSTALL INLET PER MAG STD DET 535
 5. INSTALL DRYWELL PER MAXWELL OR APPROVED EQUAL
 6. CONSTRUCT SIDEWALK PER MAG STD DET 230. SIDEWALK ADJACENT TO BLDG SHALL BE OVER 4" ABC.
 7. CONSTRUCT RETAINING WALL
 8. EXISTING WALL TO REMAIN
 9. CONSTRUCT ONSITE PAVING.
 10. CONSTRUCT 6" CURB.
 11. CONSTRUCT REFUSE ENCLOSURE PER COS STD DET 2146-1
 12. CONSTRUCT 12:1 MAX ADA RAMP
 13. PLACE TWO 12"x18" NO PARKING SIGN AND PAINT WHITE STRIPE HATCH AREA SHOWN ON PLAN. HATCH STRIPES SHALL BE 2' APART. PAVE ADA STALL MAX 2% IN ALL DIRECTIONS. SIGN PER COS AND ADA REGULATIONS
 14. SRP TRANSFORMER - SEE SRP PLANS
 15. SITE LIGHTING - SEE ELECTRICAL PLANS
 16. REMOVE / RELOCATE OVERHEAD POWER
 17. CONSTRUCT 11' WIDE DECEL LANE. PROJECT TO WORK WITH ADJ PROPERTY OWNER FOR CONTINUOUS DECEL LANE IF NECESSARY. SIDEWALK EASEMENT TO BE ADDED FOR ANY SIDEWALK OUTSIDE RIGHT OF WAY
-
30. INSTALL 12X6 TS&V
 31. INSTALL NEW FIRE HYDRANT
 32. INSTALL 6" FIRELINE
 33. NEW FDC
-
40. INSTALL NEW 6" SEWER TAP

CONTRACTOR SHALL FAMILIARIZE THEMSELVES WITH ALL SITEWORK DISCIPLINES, INCLUDING, BUT NOT LIMITED TO, BUILDING, LANDSCAPE, DRY UTILITIES, LIGHTING, LOW VOLTAGE, FUEL SYSTEM, ETC AND COORDINATE ALL WORK APPROPRIATELY.



CLIENT:
EAPC

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RELEASE	
DATE	
1-8-21	PRELIM ENGR
1-26-21	REV SITE PLAN
1-28-21	REV SITE PLAN
1-28-21	REV SITE PLAN

REVISIONS	
NO.	DATE
1	
2	
3	

PROJECT NAME

SELF STORAGE

PROJECT ADDRESS

McDowell / Scottsdale Rd
SCOTTSDALE, ARIZONA
85257

PROJECT AREA

HELIX JOB NUMBER

523

SHEET TITLE

IN HOUSE

DRAWN BY: MT

CHECKED BY: SB

Prelim G / D PLAN

SHEET

GD-1

PAGE

1 OF 1

PLOT SCALE: 1:1 @ 24"x36"; 1:2.2 @ 11"x17"

COS
PLAN REVIEW